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ABSTRACT

Part of a series of instructor training modules on related subjects instruction for apprentices, this booklet introduces the concept of related subjects instruction. Covered in the module are the following topics: the nature and organization of apprenticeship programs (the definition of apprenticeship, the importance of apprenticeship, occupations that are apprenticeable, the parties involved in apprenticeship programs, and national standards for apprenticeship programs); related instruction (the definition of related subjects instruction and the role of the teacher as a related subjects instructor); and the instructional system (the design and content of the instructional materials in this series of modules and the benefits of using the materials). (MN)

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INTRODUCTION TO RELATED SUBJECTS INSTRUCTION AND INSERVICE TRAINING MATERIALS

Instructor Training Module #1

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1. General Nature And Organization Of Apprenticeship

What Is Apprenticeship?

Apprenticeship is a unique, voluntary training system through which individuals acquire trade and craft skills and knowledge. Training combines daily on-the-job instruction in manipulative skills with periodic classroom instruction in technical subjects related to work requirements. The training design provides for learning all required *practical* and *theoretical* skills and knowledges for the chosen skilled occupation. Practical aspects of work are mastered on the job as apprentices are rotated through all phases of their particular occupations. Theoretical aspects of work are mastered during related subjects instruction in the classroom. Related instruction continues throughout the apprenticeship term and provides an opportunity to consider, in depth, the underlying principles of job activities. This arrangement of on-the-job and classroom instruction is a standard part of typical apprenticeship indenturing agreements. It ensures the individual's employability and guarantees competent workers for industry by providing for learning the complete range of skills and knowledge during training.

The training system stipulates requirements about the time period for apprentice training, pay, and performance expectations. For example, the required length of time for training generally ranges from one to six years, depending upon the specific trade. The majority of programs require three to four years of work and study to complete an apprenticeship. Since apprentices are full-time employees of the company in which they are apprenticed, the system includes a pay schedule for apprentices while they train. Usually the wage scale begins at about half of a journeyman's rate and increases progressively with satisfactory completion of work assignments and training segments. Near the end of the apprenticeship term, pay ranges from 90 to 95 percent of the full journeyman rate. The system also requires a formal written agreement between the apprentice and the program sponsor in which is set forth expectations, duties and obligations of each party for the apprenticeship term. Among items typically incorporated into the agreement are the provision for related instruction, overtime regulations, minimum wage schedule for each period in the apprenticeship term, and approximate time schedule for training in different aspects of the occupation.

Why Is Apprenticeship Important?

For centuries apprenticeship has been a preferred method of training. Thousands of workers have been trained to perform effectively in high-skill and technical occupations to the advantage of both the individuals and program sponsors. For the apprentice the advantages for participating in the training system include the following:

1. Gaining varied skills through instruction and experience in all major aspects of a trade or craft;
2. Learning to work in harmony with different types of trades and crafts people in a work setting;
3. Learning to work within a company or work organization;
4. Learning about each skilled worker's part in the productivity plan of the industry or business;
5. Receiving a wage with regular increases while learning a skilled craft or trade;
6. Increasing employability and economic security; and
7. Receiving recognition as skilled workers from peers, journeymen, employers and union members.

For the program sponsor, the advantages for participating in the apprenticeship training system include the following:

1. Developing and ensuring a supply of trained, skilled and knowledgeable workers and supervisors for their operations;
2. Increasing worker productivity, overall skill levels and versatility;
3. Lessening the need for supervision of employees by developing initiative, pride in craftmanship, speed and accuracy in work; and
4. Continuing to attract a constant flow of capable men and women into the trade or craft.

Which Occupations Are Apprenticeable?

Apprenticeship is a training system for learning any one of the more than 700 identified apprenticeable trades or crafts. Included in the system are occupations such as machinist, plumber, fire medic, x-ray technician, die maker, water treatment plant operator, electrician, mill-

wright and printer. Apprenticeable occupations generally are defined by the following:

a. Skills are primarily learned through a combination of on-the-job training supplemented by related technical instruction.
b. Training requires at least 2,000 hours of work experience plus related instruction.
c. The occupation involves manual, mechanical or technical skills and is practiced industry-wide as a recognizable trade or craft.
d. Training for the occupation involves the development of a body of skills sufficiently well defined to be applicable throughout an industry.
e. The occupation does not primarily involve only selling, managerial, clerical or professional activities.

Who Is Involved With Apprenticeship Programs?

The two parties most intimately involved with apprenticeship programs are individual apprentices and program sponsors. Apprentices are adult men and women who are full-time members of the work force while training through work and study to become even more proficient craftsworkers. As apprentices, they are among a select group of workers. To be chosen for apprenticeship, applicants must be able physically to perform the work of the craft or trade; must meet minimum age requirements; and usually must satisfy the program sponsor by test, interview and records that they will profit from the training experience. For most trades and crafts, applicants must be high school graduates or must have earned high school equivalency certificates. Formal selection procedures are established by the sponsor and take into account equal opportunity provisions of federal and state law.

The program sponsor plans, administers and pays for the program. Sponsors can be individual employers, groups of employers or combinations of employers and unions. A combination of equal numbers of employers and unions is called a joint labor management apprenticeship committee. The term often is shortened to Joint Apprenticeship Committee (JAC) or Joint Apprenticeship and Training Committee (JATC). The latter term, JATC, applies if the committee administers a journeyman training program to upgrade craftwork skills in addition to directing an apprenticeship program.

The sponsor sets policy concerning the conduct of the program. Jurisdiction includes selecting and indenturing apprentices, supervising training, establishing training curriculum and certifying apprentices as journeymen upon completion of the program.

Although most directly involved in the administration of apprenticeship programs, apprentices, local apprenticeship committees and/or corporate directors of training are not the only entities involved with an apprenticeship program. Other involved groups and organizations include the Bureau of Apprenticeship and Training (BAT) of the U.S. Department of Labor, the Federal Committee on Apprenticeship (FCA), the State and Territorial Apprenticeship Agencies (SAC) and the National Joint Apprenticeship and Training Committees.

The federal role, as authorized by the National Apprenticeship Act of 1937, is to promote labor standards that safeguard the welfare of apprenticeships and to guide, improve and assist apprenticeship. BAT maintains a field office in every state and works with employers, unions and state apprenticeship agencies to develop programs and devise ways to give better training. The Bureau approves and registers programs, provides technical assistance to employers on training and searches out new ways to expand apprenticeship. BAT also encourages labor and management to determine future needs for journeymen as a basis for establishing apprenticeship programs. Further, it encourages development of adequate educational facilities and programs, promotes equal opportunity in the selection and employment of apprentices, conducts or sponsors studies of the system designed to improve its efficiency, distributes information related to apprenticeship and stimulates active support of effective programs among all pertinent organizations.

The federal role is enhanced by the activity of the Federal Committee on Apprenticeship, one of the oldest public advisory committees in the federal government. The Committee is composed of 25 persons appointed by the Secretary of Labor and represents management, labor and the public. FCA advises the Secretary of Labor on concerns such as expanding apprenticeship and journeymen training in all sectors of the economy, increasing the effectiveness of equal-opportunity programs, promoting labor standards to protect apprentices, improving relations and coordination with other training systems, identifying research needs and strengthening cooperative relationships with state apprenticeship and training agencies.

State and territorial apprenticeship agencies have been established in 32 states and territories. Ideally each receives policy guidance from an apprenticeship council composed of employer, labor and public representatives. Councils devise and oversee procedures for recognizing apprenticeship programs in the states. A number of SACs have staff to help employers and unions develop, expand and improve apprenticeship programs. Their work is carried on in cooperation with BAT. Each uses the BAT standards as the minimums for establishing programs but may add other state requirements in addition to the BAT specifications.

National Joint Apprenticeship and Training Committees operate in a number of trades. They are composed of representatives of national employer associations and international labor organizations. These committees develop standards for their trades that serve as guidelines for local apprenticeship programs. Also, the committees encourage local affiliates to develop and conduct programs and provide them with information on need for apprenticeship, materials, changes in technologies and training methods.

Local apprenticeship programs may or may not be registered. Registration means formal recognition of a program by a state apprenticeship agency or by the Federal Bureau of Apprenticeship and Training. Programs can be registered upon request of the sponsors when certain basic criteria are met. The benefits of registration include:

1. Assurance of a quality standardized training component;
2. Assurance of a progressively increasing wage scale;
3. Assurance of a specified term of training with clearly demarcated points for and a record of assessment, promotion, and increasing breadth and depth of training;
4. Assurance of non-discrimination;
5. Assurance of a probationary period without penalty;
6. Greater job opportunities and security; and
7. Certification upon completion.

What Are The National Standards For Apprenticeship Programs?

Standards that govern the operation of apprenticeship and training programs are set forth in the rules and regulations of the National Apprenticeship Act and are intended to safeguard the welfare of apprentices as well as to prescribe policies of registered programs. The standards as set forth in 29 CFR 29, Labor Standards For The Registration of Apprenticeship Programs, serve as minimum requirements for registered programs and may be expanded by State Apprenticeship Councils and/or by National Joint Apprenticeship Committees. The standards are:

A. The program is an organized, written plan embodying the terms and conditions of employment, training and supervision of one or more apprentices in the apprenticeable occupation, as defined in this part, and subscribed to by a sponsor who has undertaken to carry out the apprentice training program.

B. The program standards contain the equal opportunity pledge prescribed in 29 CFR 30.3(b) and, when applicable, an affirmative action plan in accordance with 29 CFR 30.4, a selection method authorized in 29 CFR 30.5, or similar requirements expressed in a State Plan for Equal Employment Opportunity in Apprenticeship adopted pursuant to 29 CFR Part 30 and approved by the Department [of Labor], and provisions concerning the following:

1. The employment and training of the apprentice in a skilled trade;
2. A term of apprenticeship, not less than 2,000 hours of work experience consistent with training requirements as established by industry practice;
3. An outline of the work processes in which the apprentice will receive supervised work experience and training on the job, and the allocation of the approximate time to be spent in each major process;
4. Provision of organized, related and supplemental instruction in technical subjects related to the trade. A minimum of 144 hours for each year of apprenticeship is recommended. Such instruction may be given in a classroom through trade, industrial or correspondence courses of equivalent value, or other forms of self-study approved by the registration/approval agency;
5. A progressively increasing schedule of wages to be paid the apprentice consistent with the skill acquired. The entry wage shall not be less than the minimum wage prescribed by the Fair Labor Standards Act, where applicable, unless a higher wage is required by other applicable Federal law, State law, respective regulations, or by collective bargaining agreement;
6. Periodic review and evaluation of the apprentice's progress in job performance and related instruction and the maintenance of appropriate progress records;
7. The numeric ratio of apprentices to journeymen consistent with proper supervision, training, safety, continuity of employment and applicable provisions in collective bargaining agreements, except where such ratios are expressly prohibited by the collective bargaining agreements. The ratio language shall be specific and clear as to application in terms of jobsite, work force, department of plant;
8. A probationary period reasonable in relation to the full apprenticeship;
9. Adequate and safe equipment and facilities for training and supervision, and safety training for apprentices on the job and in related instruction;
10. The minimum qualifications required by a sponsor for persons entering the apprenticeship program, with an eligible starting age not less than 16 years;
11. The placement of an apprentice under a written apprenticeship agreement as required by the State apprentice law and regulation, or the Bureau [of Apprenticeship and Training] where no such State law or regulation exists. The agreement shall directly, or by reference, incorporate the standards of the program as part of the agreement;

12. The granting of advanced standing or credit for previously acquired experience, training, or skills for all applicants equally, with commensurate wages for any progression step so granted;
13. Transfer of employer's training obligation when the employer is unable to fulfill his obligation under the apprenticeship agreement to another employer under the same program with consent of the apprentice and apprenticeship committee or program sponsor;
14. The assurance of qualified training personnel and adequate supervision on the job;
15. Recognition for successful completion of apprenticeship evidenced by an appropriate certificate;
16. Identification of the registration agency;
17. Provision for the registration, cancellation and deregistration of the program; and requirement for the prompt submission of any modification or amendment thereto;
18. Provision for the registration of apprenticeship agreements, modifications, and amendments; notice to the registration office of persons who have successfully completed apprenticeshp programs; and notice of cancellations, suspensions and terminations of apprenticeship agreements and causes therefor;
19. Authority for the termination of an apprenticeship agreement during the probationary period by either party without stated cause;
20. A statement that the program will be conducted, operated and administered in conformity with applicable provisions of 29 CFR Part 30 and approved by the Department [of Labor];
21. Name and address of the appropriate authority under the program to receive, process and make disposition of complaints;
22. Recording and maintenance of all records concerning apprenticeship as may be required by the Bureau [of Apprenticeship and Training] or recognized State Apprenticeship Agency and other applicable law.

2. Related Subjects Instruction

What Is Related Subjects Instruction?

Related subjects instruction is an integral part of an apprenticeship program. It functions to provide each apprentice with the theoretical and technical knowledge base necessary to become a successful journeyman. It also provides additional practice and practical examples for the use of job-related skills and knowledges.

All registered programs include related subjects instruction. The National Apprenticeship and Training Standards require that a minimum of 144 hours per year of apprenticeship be provided to each trainee in related and supplementary subjects. This period of time can be increased by trade and craft standards or by program sponsors if content warrants the increase. Some industries require as much as 200 to 300 hours yearly in related subjects study by apprentices.

The content of related subjects instruction, like the number of hours required, varies by trade or craft. In general the kind of subjects taught include (a) the theory, principles and technical knowledge needed on the job; (b) auxiliary information that assists a worker to better accept and discharge his or her responsibilities; and (c) occasional manipulative skills that are important to the craft or trade but are not provided conveniently in the apprentice's on-the-job training. Often this means that related subjects instruction includes the principles, concepts, and information that apprentices must know and use from subject matter such as mathematics, general physical sciences, safety, basic measurement, and blueprint reading in addition to study of trade-specific materials and work processes/procedures. Also, related subjects instruction helps to ensure that workers can communicate effectively on the job, can work effectively in organizations, and have knowledge of the apprenticeship system. However, regardless of the trade, craft or situation, the subject matter is current to job demands, pratical, and directly useful in working in the craft or trade.

Related subjects instruction is an important portion of the apprenticeship training system. Overtime work is not permitted if it would interfere with related instruction attendance. More importantly, in order to be certified as a journeyman, an apprentice must attend *and* successfully complete the program of related instruction. Apprentices, while not always enthusiastic about attending in the early stages of training, are encouraged to take the instruction seriously. In those instances when apprentices fail to fulfill their related subjects responsibilities, sponsors are authorized and required to take appropriate disciplinary action. Conversely, apprentice advancement in pay grade and responsibility is based in part on performance in related instruction. You as a related subjects instructor, have an important role in both types of decisions, by supplying data on which the decisions are based and offering recommendations to the sponsor.

While some industries have created their own industry-specific, day-time, paid related subjects instructional program, most related instruction is provided in the evening through programs that neither pay apprentices for time nor provide formal school credit. Frequently instruction is offered in conjunction with public education organizations at either secondary or postsecondary levels. The instruction is provided in a variety of settings including typical classrooms, shops or laboratories, in the work place, the library, at the training facility, or in the union hall. Sometimes, particularly in rural areas, related instruction is even provided in the apprentice's home through independent study arrangements or correspondence courses of equivalent value to other courses of study.

Regardless of the instructional setting or the specific content, remember that related subjects instruction is critical to the successful training program. Related instruction is of particular value in that it helps to equip apprentices with technical knowledge and manipulative skills, provides a background for promotion, substitutes for on-the-job training that is too difficult or expensive, and contributes to individual self-esteem and acceptance as a competent craftsperson. In combination with on-the-job training, research findings suggest that it remains the most efficient means of providing employment training with better results than either on-the-job training by itself, related instruction by itself, or other types of training such as traditional education when addressed to preparing for apprenticeable occupations.

What Is Your Role As A Related Subjects Instructor?

In order to get the most benefit from the time and effort you and the apprentices in your charge invest in related instruction, you must remember and use several basic facts about your role as a trainer in related subjects. First, remember that you have been selected as an apprenticeship instructor because of your qualifications and abilities. Your qualifications and abilities include your skills as a trades or craftsperson, your technical expertise, your leadership capabilities, your ability to communicate and

your personality. You will use each of these talents in your role as a related subjects instructor as you bridge the gap between trade knowledge and trade skills for apprentices.

Second, as a related subjects instructor, remember that you have legal and moral responsibilities to the sponsor and the apprentice. You have been hired by a sponsor to teach a number of apprentices and you must follow carefully the terms of that contract with particular attention to providing the sponsor with attendance and progress reports for each apprentice. You also must meet the contractual requirements of time and subject matter for instruction specified in the apprentice agreement signed by the employer and the individual apprentice. In addition, in most states, you are legally responsible as a teacher for the safety and welfare of the trainee in your charge during instruction. This responsibility extends not only to classroom activities, but also to field trips and to instruction you might provide in other places such as the workplace. Of particular concern are use of proper procedures and safety devices when demonstrating uses of tools. While most programs carry liability insurance that protects the instructor against negligence resulting in accidents, you must take reasonable precautions and give the trainees safety instruction along with every skill taught. Further, you must exercise continuous supervision with apprentices during training.

Third, remember that groups of apprentices are made up of individuals, each with different needs, aspirations, backgrounds, abilities and learning styles. You must not assume that apprentices are, by reason of being adults, proficient learners. Instead, attend to the following characteristics that pertain to adult learners like apprentices:

- Adults need to feel ownership of knowledge and skills in order to commit the information into the individual's working repertoire.
- Adults must visualize, apply, and practice skills and knowledges.
- Adults prefer to work with materials that are explicit, concrete, and related to practical, personal experience.
- Adults tend to learn relatively less effectively in anxious and stressful situations.
- Adults usually attempt to relate new information and skills to prior learning and experience.
- Adults prefer to work with materials that are clear and offer certainty about the points under consideration.
- Adults respond positively to clear goals, expectations, feedback and reinforcement.
- Adults are not necessarily proficient learners and usually differ dramatically in abilities and prior experiences.
- Adults are more proficient in remembering visual stimuli as compared with written word stimuli.
- Adults process verbal information better than any other form of communication in order to form concepts, subject only to the effects of prior job experience.
- Adults prefer to work with relatively smaller units of material at one time.

The characteristics of adult learners fall into three categories, each of which is a need. Take these needs into account as you provide related instruction. The needs are (1) the need to be comfortable with a learning situation; (2) the need to feel ownership of information and skills; and (3) the need to deal with explicit, concrete information.

Need To Be Comfortable With A Learning Situation

Adults prefer to learn in relatively less stressful and anxious situations. Stress often is introduced unknowingly into the learning setting through factors such as lack of clear or explicit expectations or materials of inappropriate length and difficulty. Remember, adult learners are even more different as individuals than younger learners due to different life experiences.

If you are aware of the potential problems arising from learning characteristics associated with the need to be comfortable with learning situations, you can use strategies to make the learning situation more comfortable for apprentices. For example, you can eliminate uncertainty by writing out and discussing with trainees performance objectives that express the expected outcomes of instruction. You will reduce anxiety and confusion further if you consistently provide introductory information and directions that describe what will occur during instruction in terms of time use, resources required, use of materials and equipment, sequence of activities, and evaluation.

A second way to reduce stress is to provide instruction so that the trainees experience success while learning the information. If you prepare or use materials in a competency-based format you will increase the probability of this type of success occurring. The materials described in this module have been written as competency based materials.

The most important single way to reduce stress is to prepare and use instructional materials that are written at the appropriate level of difficulty for adult learners. On the average, adults can work effectively with 6 to 7 items of new information at any one time. Further, ability to work with information is limited by the attention span and reading level of the reader, the sheer volume of words to be read and the time it takes to commit information in one's long term memory. Given these factors, you should limit instructional materials to written segments of 5 to 10 typed pages per major point in the lesson. Additionally,

you should never exceed 6 to 7 major points in any one lesson and usually will be more effective if you deal with only five (5). Further, if at all possible, you should adapt materials such that they become self-paced materials. This allows for differences in reading ability — both speed and comprehension. As importantly, the self-paced aspect allows time for the apprentice to process the information and commit it to memory. Taken together, these strategies provide the adult learner with a sense of control over use of the materials. Further, they help to reduce the possibility of feeling overwhelmed by large amounts of new materials. The materials described in this series of booklets conform to these specifications for assisting adults to be comfortable in learning situations.

Need For Ownership Of Information And Skills

Adults learn best when they perceive that they own or possess individually the information and skills under consideration. This need is expressed in three primary ways. First, when adults consider rules, concepts and principles, they process the information in their own words during and after instruction. This enables them to derive the meaning and to commit the information to memory. Second, when working with items, directions, and skills, adults actively imagine situations in which they mentally take the role of a person using or reacting to the information or skill. As they visualize the situation, behavior and consequences of action, they commit the skill or knowledge to working memory. In this regard, trial and error through practice permits more realistic and vivid information processing. Third, adults usually attempt to deal with new information initially by trying to compare or associate the new information with prior learning.

Each of the ways for expressing this need has implications for you as an instructor. For example, you must make sure that the instructional materials are written at the correct level of difficulty and in the vocabulary of the apprentice. You must provide adequate amounts of examples and practice situations to permit trainees to process the information and skills under consideration by imagining themselves in specific situations. Further, you must compare old and new information so trainees will recognize the difference between the two, will better learn each, and will build on the older set of information.

Need For Explicit, Concrete Information

This need is expressed in the types of information and types of presentations which result in the most effective and efficient adult learning. As an instructor you should meet this need by:

1. including examples and practice situations as a regular part of every lesson;
2. using questions that require learners to transfer instruction and skills to new situations in order to answer questions;
3. presenting information in a combination of oral and written narrative and visual forms;
4. sequencing information so it builds on and is related to other information;
5. emphasizing major points and facts throughout the lesson.

Related Teaching Skills

For you as a related subjects instructor, these characteristics of adult learners including apprentices mean that you must develop and use instructional materials and presentation techniques that utilize adult strengths while minimizing limitations. As a related instructor, you must show the same respect for apprentices that will be accorded you as a tradesperson. You must be assertive, confident and responsive to each teaching/learning situation. You are responsible for the instructional activity and quality. Only you can create the learning environment, provide the learning resources and guide the trainee through the subject matter. In order to perform these duties successfully, you must utilize teaching or pedagogical skills such as those involved with presenting information, developing instructional activities, planning instruction, and managing a learning activity. This booklet is one of a set of instructional materials for related subjects instructors that have been designed to teach you or sharpen your skills in the core pedagogical areas necessary to provide successful related subjects instruction.

3. The Instructional System

What Are The Design And Content Of The Instructional Materials?

The instructor training materials are an instructional system for preservice and inservice staff development of related subjects instructors. For a tradesperson or craftworker to be an effective trainer, he or she must not only know their trade skill, but also they must use teaching skills appropriate for conveying that information to apprentices. This series of materials is written to train related subjects instructors in the critical teaching skills necessary to perform their jobs effectively. The titles of the booklets in the series are:

1. *Introduction to Related Subjects Instruction and Inservice Training Materials*
2. *Planning the Apprenticeship Program*
3. *Planning Related Subjects Instruction*
4. *Developing Instructional Materials for Apprentices*
5. *Presenting Information to Apprentices*
6. *Directing Learning Activities for Instruction*
7. *Providing for Individual Learner Needs*
8. *Controlling Instructional Settings*
9. *Evaluating Apprentice Performance*
10. *Communicating With Apprentices*

The first booklet introduces the series, describes the content of each booklet, and provides an overview of apprenticeship and of adult learners. The second booklet describes how to plan an apprenticeship program and may be used by related instructors, sponsors or service agencies. Each of the other eight booklets deals with a set of training skills judged by a nationally representative panel of experts of apprenticeship to be critical to working effectively as a related subjects instructor. The exact relationship of the booklets and skills is depicted in Figure 1. Their order conforms not only to the logical flow of instructional activities, but also to the way mastery of the skills contributes to mastery of other skills.

What Must You Do To Compiete Your Work In The Booklets?

Working your way through this series of booklets will require you to read the texts, to answer the questions, to perform the exercises, and to complete the pre- and post-assessment instruments. Expect to spend from two to six hours working through the materials, depending upon the booklet. The only resources you need to complete your work in any booklet are: (1) a copy of the booklet; (2) a pencil or pen; (3) several hours of time; and (4) recollection of past related instruction experiences.

The materials are written in a self-instructional, programmed format. You may work through the text, examples and questions at your own pace and leisure; you need not complete your work in any booklet at one sitting.

Each chapter in each booklet is devoted to a single skill. The general format of the chapters is similar, with the following parts:

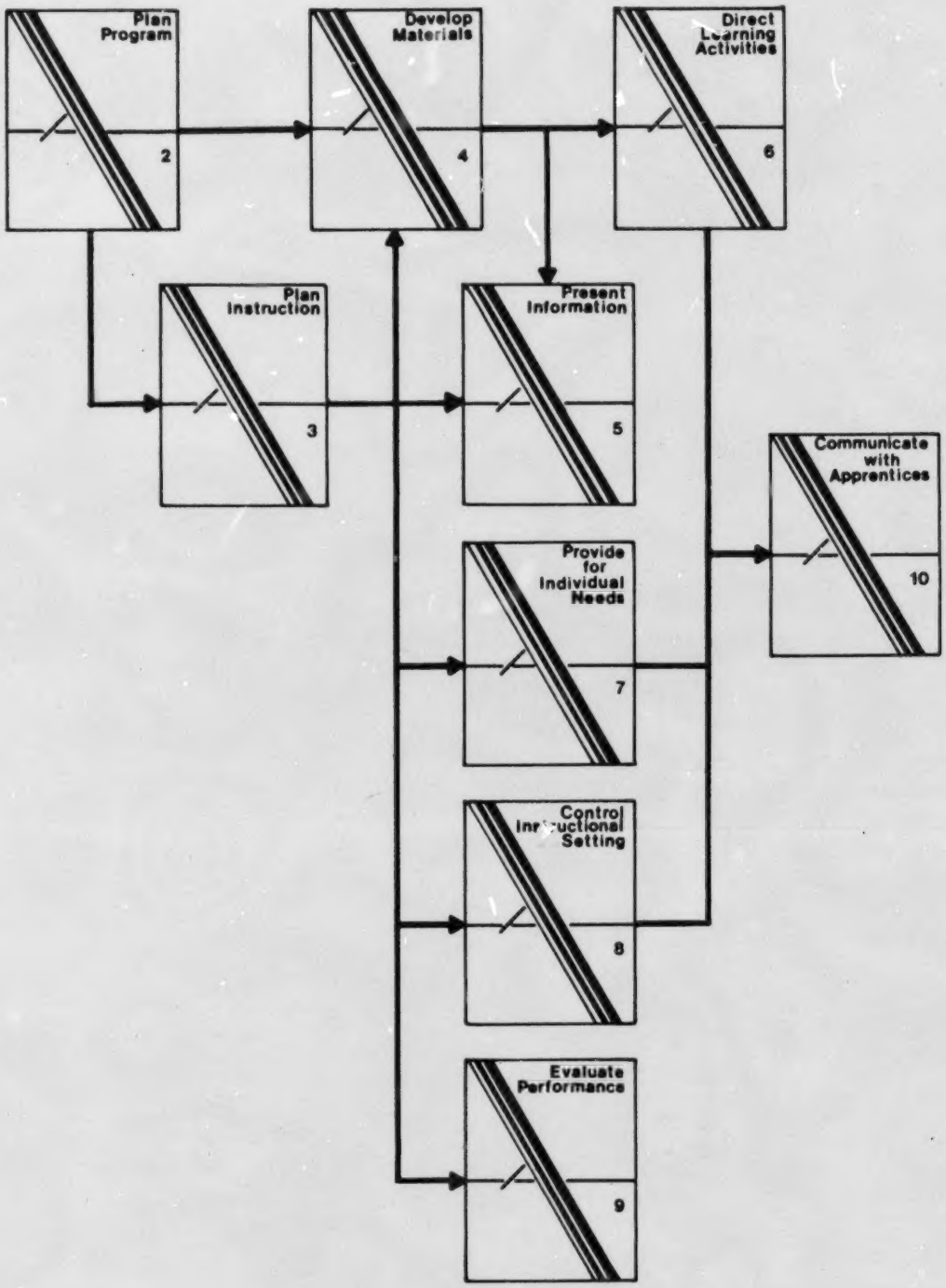
1. An *introduction* describing the skill and the instructional objectives for that skill.
2. *What* is, *when* and *why to use the skill.*
3. *Step-by-step directions* for how to perform the skill.
4. An *example* of how the skill is used in related instruction.
5. Additional sources of *information.*
6. A *self-test exercise* to apply the information about the skill.

Each booklet concludes with an appendix that contains the answers to the self-test exercises from each chapter and the posttest.

Your activities in working through each booklet should include, in order, the following things:

- Complete the self-assessment and score it using the key;
- Read and consider in detail the introduction and objectives for each skill;
- Read and study the text, examples and illustrations provided for each skill;
- Complete the self-test exercise for each chapter and compare your answers with those provided in the appendix;
- If you complete the self-test exercise as directed, continue your work in the booklet. If you fail to answer the questions correctly, repeat your work in the chapter under consideration; and
- At the conclusion of each booklet, complete the post-test for the unit. Check your answers against those provided. If you exceed the criteria, continue your work in the next booklet; if you fail to demonstrate mastery, repeat portions of the booklet as needed.

Figure 1. The Related Instructional System



Content Of The Training Materials

The most critical skills and areas of instructional responsibilities were derived through a rating process that included approximately three hundred pedagogical skills and eighteen areas of instructional responsibility, each of which is important to teaching adults in occupational education and training. Raters were a national sample of sixty persons chosen because of their special expertise in all aspects of apprenticeship and training. Raters included instructors, program directors, materials developers, state program administrators, employer sponsors and union sponsors.

The content of the entire set of training materials follows. For each booklet, the information and skills addressed within that booklet, together with the basic purpose and expected outcomes from completing the materials is listed.

1. Introduction to Related Subjects Instruction and Inservice Training Materials

The information and skills addressed in Instructor Training Module #1 are:

1. General nature and organization of apprenticeship;
2. Related instruction; and
3. The instructional system.

The purpose of the first module is to provide information about the set of materials to potential users as well as to offer a general description of apprenticeship and related instruction. After reading the booklet, you should be able to make an informed decision about the usefulness of the training materials to your needs.

2. Planning the Apprenticeship Program

The information and skills addressed in Instructor Training Module #2 are:

1. Conduct occupational analyses to determine needs for, support for, and general content of the program;
2. Establish goals and objectives for the apprenticeship program; and
3. Incorporate ideas that facilitate upgrading of program to keep current with new technology, new training ideas and changes occurring in the occupation.

The purpose of this module is to provide background information about apprenticeship and program development to potential sponsors, representatives of service organizations and related subjects instructors. After working through the booklet, you should understand several techniques useful for planning and updating apprenticeship programs.

3. Planning Related Subjects Instruction

The information and skills addressed in Instructor Training Module #3 are:

1. Identify specific knowledges, skills and attitudes for inclusion in related subjects instruction;
2. Develop and specify performance objectives for related subjects;
3. Determine standards of performance; and
4. Provide for appropriate use and variety of instructional time, activities and materials.

The purpose of this module is to train you in several basic instructional planning skills. By using these skills you will save time and make the expectations for activities and outcomes clearer for both yourself and the apprentices in your charge. After working through this module, you will be able to develop a Plan for Instruction (PFI) for your course. It will include specification of performance objectives, resource needs, schedules, activity sequence and preliminary evaluation requirements.

4. Develop Instructional Materials for Apprentices

The information and skills addressed in Instructor Training Module #4 are:

1. Prepare written materials for adult learners such as apprentices;
2. Construct useful performance-related examples, problems and practice situations;
3. Develop competency-based, criterion-referenced materials;
4. Construct advanced organizers and summaries; and
5. Prepare self-instructional, individualized materials.

The purpose of this module is to help you develop or adapt instructional materials to use in your course. When you have completed your work in this booklet, you will be able to critique, select, adapt and revise instructional materials for use in your course. Further, you should be able to prepare materials like examples, written text and summaries that are effective with adults.

5. Presenting Information to Apprentices

The information and skills addressed in Instructor Training Module #5 are:

1. Plan to present information in the related subjects experience;
2. Introduce lesson and provide clear expectations and directions for apprentice activity and outcomes;
3. Vary methods for presenting information;
4. Use instructional aids in presenting information; and
5. Modify instruction based on learner feedback.

This module provides training in important aspects of in-class activity such as giving directions and methods of conveying information to trainees. The information should serve as guidelines or a refresher for you to help you vary the ways you present information to trainees. After completing your work in the booklet, you should feel fairly confident about your course presentations.

6. Directing Learning Activities for Instruction

The information and skills addressed in Instructor Training Module #6 are:

1. Establish positive learning atmosphere of interest, enthusiasm, respect, and positive interaction;
2. Motivate apprentices to learn;
3. Reinforce apprentice learning and attitudes;
4. Provide opportunity for each apprentice to practice and apply information and skills;
5. Order lessons and activities so each builds on previous lessons; and
6. Organize class for smooth transition across time, materials, content and activities.

These may be the most critical of all pedagogical skills. They directly affect apprentice learning and, in large measure, determine your degree of success as an instructor. When you have completed your work in this booklet, you should be able to manage instructional activities, encourage and motivate apprentice activity, and utilize precious resources like time and interest.

7. Providing for Individual Learner Needs

The information and skills addressed in Instructor Training Module #7 are:

1. Determine needs, interests and abilities of each apprentice;
2. Develop individual apprentice related instruction plans; and
3. Use principles of individual differences in the learning process.

The purpose of this module is to help you deal with the many differences and abilities you will find within any group of adult learners. When you have completed your work in this booklet, you should have additional tools and insight into working with each individual apprentice in your charge.

8. Controlling Instructional Settings

The information and skills addressed in Instructor Training Module #8 are:

1. Establish and explain expectations and rules for behavior and maintain control in an atmosphere conducive to learning; and
2. Handle disruptive behavior and conflict actively and appropriately.

The purpose of this module is to provide you with an entire range of skills and options to deal with difficult classroom situations. When you have completed your work in this booklet, you should be able to deal effectively with almost any behavioral situation by choosing one or more of the available strategies. Further, you should be able to fit the strategy to the particular situation so that your behavior is reasonable, logical and understandable.

9. Evaluating Apprentice Performance

The information and skills addressed in Instructor Training Module #9 are:

1. Assess apprentice knowledge and skill;
2. Assess work-related attitudes and values;
3. Discuss individual evaluation results with apprentice learners; and
4. Develop instrumentation to certify skills and knowledges upon completion of program or course.

The purpose of this module is to provide you with testing and evaluation skills. You will learn about test and item development. When you have completed your work in this booklet, you should be comfortable performing the testing, evaluation and reporting function for your course.

10. Communicating with Apprentices

The information and skills addressed in Instructor Training Module #10 are:

1. Identify aspects of good interpersonal communication;
2. Develop attending and responding skills; and
3. Develop personalizing and initiating skills.

In working through this module you will sharpen your communication skills so that you can use everyday communication with apprentices to motivate their learning and to meet program needs. Also, completion of the materials should make you more comfortable in the related subjects setting.

What Are The Benefits Of Using The Training Materials

The materials can be used to provide initial training for new related subjects instructors or can be used to sharpen certain skills of veteran instructors. Further, they can be

used in structured, formal inservice or preservice training or in informal individualized training efforts. The benefits in any case should be similar and include:

1. Exposure to and mastery of the most critical basic teaching skills needed to function effectively in the related subjects setting by related studies trainers;
2. Increased instructor confidence in their ability to function effectively in the related studies setting;
3. Better trained apprentices due to increasing numbers of instructors that possess and use critical teaching skills; and
4. Flexible materials that can be adapted to dffering needs and training opportunities of related subjects instructors.